Control of Risks from Whole-body Vibration
HSE guidance and expectations
HSE’s approach to WBV

- The approach to WBV is much more directed towards good practice controls, than the detailed requirements described for HAV

- However, there are a number of industry sectors where exposures can be high
Back pain in drivers

• Many possible causes of back pain in drivers
• There could be one (or a combination) of the following factors involved:
  – Poor design or adjustment of seating or controls
  – Poor driver posture
  – Long periods in seat
  – Manual handling of loads
  – Awkward access to or jumping from cab
  – WBV, especially shocks & jolts
Exposure action and limit values for whole-body vibration

• Exposure Action Value (EAV): 0.5 m/s\(^2\) A\(\text{(8)}\)
  – many vehicle/mobile machinery users will need to consider WBV, but actions will often be simple good practice

• Exposure Limit Value (ELV): 1.15 m/s\(^2\) A\(\text{(8)}\)
  – a challenge for *some* activities in *some* industries

• Transitional period for ELV to 2010 (2014 for agriculture & forestry) if not currently reasonably practicable to comply
Who is exposed to WBV in the UK?
(MRC study 1999)

- 9,000,000 exposed to WBV
  - Mostly road transport
  - Low risk, simple management measures
- >1,300,000 above the EAV
  - Many still at low risk
- >370,000 above 15 m/s^{1.75} VDV
  - See pie chart
- <1% exposed above the ELV
  - >20,000
  - Some activities in agriculture, mining, quarrying, construction, etc.
HSE’s experience of WBV

• Exposures exceeding the ELV are rare:
  – just some tasks in key industries

• Exposure near the ELV assumed greater risk to health

• Shocks and jolts appear important contributors to risk

• Ergonomic factors nearly always more important than WBV, but…

• WBV may aggravate existing pain and prompt complaints
Who is at risk from WBV?

• Very little need for concern about WBV in road vehicles
  – i.e. most of the workers exposed to WBV

• Some concern for industrial trucks
  – particularly if used on inappropriate surfaces

• Main concern in off-road machinery:
  – agriculture, construction, quarrying, mining, forestry, small fast boats, etc.
Example of severe vibration
Straightforward risk control actions

• Driver behaviour:
  – slower, different route, avoiding rough ground, driving time limit;
  – driver skill, training, suspension seat adjustment

• A more suitable vehicle:
  – machine more suited to the terrain and task;
  – suitable seat and ergonomics of cab
  – Maintenance: tyre pressures, suspensions, seats

• Safer site:
  – design
  – Maintenance of roadways/operating surfaces
Information on risks from WBV (where WBV is an issue)

- Manufacturers’ emission data: main purpose is to warn of risk and estimate workplace exposures
  - WBV differences between directly competing machines are usually small
- HSE/Industry information sheets:
  - HSE and industry are collecting exposure data in high-exposure off-road industries;
  - Publications expected from end of 2006
Understand causes of back pain

• WBV is not the only potential source of back pain

• Employers should investigate all risk factors to prioritise control action:
  – Is WBV or shock aggravating existing back injuries?
  – Assess risk from poor or static posture
  – Assess risk from manual handling of loads
  – Health monitoring
HSE’s action on WBV

• Encourage employers’ action on WBV in proportion with control of other causes of back pain

• Consolidate knowledge of WBV risks and their control during the transition period for the ELV

• Work with high exposure industries to agree industry-specific guidance on good practice
  – Agriculture, Forestry, Quarries, Construction, etc.…

• Reassure low exposure industry sectors
HSE guidance on WBV

- Leaflet for employers
- Pocket card for employees
- Guidance on the Regulations and WBV (L141)
- Industry specific guidance for high exposure work – under development
Summary - management of WBV risks

• Consider all contributors to ill-health, not just vibration

• Consider risk from shocks and jolts

• Most industries should be able to adopt sector-specific guidance on good practice
www.hse.gov.uk/vibration